Green Freight Program India

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Smart Freight Centre

• Who are we?

We are an international non-profit organization focused on reducing greenhouse gas emission from freight transportation.

We guide the global logistics industry to track and reduce its GHG emissions to reduce ONE billion tonnes CO$_2$e by 2030 and to reach ZERO emissions by 2050 or earlier!

We are an international non-profit organization focused on reducing greenhouse gas emission from freight transportation.

We collaborate with our global partners to quantify impacts, identify solutions, and propagate logistics decarbonization strategies.
Our Target Audience

Primary audience consisting of:

- Shippers
- LSPs
- Carriers
- Tool Providers
- Delivery Partners

from a wide range of sectors including:

- Food and Beverage
- FMCGs
- Chemical
- E-commerce
- Cement
- Pharmaceutical
- Fashion
- Metal
- Logistics
- Automotive
SFC India: Focus Areas

1. Quantify GHG footprint for action
   • Institutionalize standardized emissions accounting
   • Methodology development & GLEC alignment
   • Awareness, Advocacy and external alignment
   • Guidance and support on Emissions Accounting

2. Organize Shippers community
   • Convene Shippers and LSPs with green freight vision
   • Build emissions hygiene and establish ZET ambitions
   • Establish collaborative models for ZET adoption
   • Enable access to Global Shippers community

3. Catalyze ecosystem development
   • Identify ecosystem barriers and mitigation strategies
   • Collaborate with Policy for strategic road mapping for freight decarbonization
   • Engage key stakeholders for Finance and tech enablement
   • Catalyze partnerships and exchanges among stakeholders

4. Collaborate on decarbonization projects
   • Support Industry partners on ZET adoption strategy
   • Establish a segmented framework for ZET adoption
   • Co-develop business case and implementation roadmap
   • Guidance and support on Emissions Accounting

5. Training and seminars
   • Capacity development integral to all India programs
   • Trainings and Cross border knowledge exchange
   • Organize thematic knowledge share sessions and workshops
   • Incubate large scale ZET centric event in partnership with GOI

Unlocking Indian Freight Sector Potential for Net Zero

Smart Freight Centre India
# Green Freight Program Design

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Key Results</th>
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| 1. Well-established and mobilized freight ecosystem | • Tracking and reporting on the industry's progress  
• Recognized governance structure for stakeholder engagement  
• Knowledge exchange among leaders and regular platforms for exchange between industry and policy makers and other stakeholders  
• Rewards / recognition scheme for shippers, carriers and solution providers  
• More safe and inclusive working environment for truck drivers |
| 2. Complete transparency of emissions | • Stakeholders have increased capacity to calculate & report emissions  
• Recognition of the GLEC Framework and ISO14083 as standard methodology  
• Data is collected, calculated and shared |
| 3. Efficient and low-emission truck fleets | • Improved existing fleet composition -> higher efficiency & economic viability  
• Minimum standards for quality of imported secondhand trucks  
• Freight is optimized through modal shift and intermodality |
| 4. Electric truck roll-out has started along corridors | • Pilots with critical mass of e-trucks -> demonstrate viability  
• Financing for e-trucks at scale is mobilized |
| 5. Empowered leaders, professionals and industry players | • University courses on green logistics  
• Technical and vocational training on green logistics  
• Growing body of research on green logistics |
Increase in green freight fleet (electric commercial vehicles, hydrogen-powered commercial vehicles; green hydrogen manufacturing plants, electrolyzers, EV charging stations).

Sustainable transportation options being developed [Electric / CNG Ferries, Water Metro].

Complete Railway track electrification;

Ethanol blending reached 12% resulting in savings of Rs 71,000 cr ($8.53 bn); lowering CO2 emissions by over 400 Lakh MT in the last 9 years.

Eco-friendly transportation: cleaner fuels; electric vehicles (EVs) - Government launched several measures.

10,000+ EV Charging stations across the country.

Concessional financing for solar energy; incentive schemes for renewable energy.
As per TERI, India had approximately 55 lakh on-road HDVs in the year 2021.

In India, road freight movement has increased by 5.8 times* (from 1999-2000 to 2018-19) (MoRTH, 2021), and it is projected to increase to 9.6 TTKM by the year 2050 (NITI Aayog, 2022).

Globally, transport sector accounts for almost one-fourth of the world’s total energy consumption, and derives more than 90% of its final energy from oil (IEA, 2022).

India has the 2nd largest road network in the world (MoRTH).

HDVs and LDVs together consume approximately 64% of the total diesel sold through retail fuel stations (PPAC, 2021).

Road freight transport accounts for approximately 70% of India’s total freight (TERI, 2021).

Road Freight at a Glance

*(0.47 trillion ton-kilometers (TTKM) in 1999-2000 to 2.69 TTKM in 2018-19)
SFC India Programs: e-FAST

**SFC India** is a part of the knowledge partner coalition for e-FAST, India’s first platform, anchored by Niti Aayog (Government of India), to facilitate collaboration between government stakeholders and private sector players to shape strategies to create a conducive environment for freight electrification.

### Focus Areas

<table>
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<tr>
<th>Scalable pilot &amp; demand aggregation</th>
<th>Economic viability &amp; financing</th>
<th>Long-term policy trajectories</th>
</tr>
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<tbody>
<tr>
<td>Supporting consensus building and pilot demonstrations for electric freight, and creating a demand signal for scalable e-truck deployment.</td>
<td>Analyzing viability of business models, developing instruments and de-risking mechanisms for financing electric freight fleets.</td>
<td>Providing research and analysis to policy makers for development of policy incentives and regulatory frameworks to promote industry innovation and uptake of electric freight vehicles.</td>
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### Accomplishments so far

- **7,750** e-freight vehicle demand
- **45+** industry partners
- **17** knowledge partners
- **100+** bilateral discussions
- **3** pilots declared

What is e-FAST? | efast (efastindia.org)
Contribution of Road freight sector to GHG emissions for India

Transportation sector accounts ~14% global emissions, significantly contributed by road freight. World Bank estimates freight emissions will increase by 50% by 2050.

Annually, India moves ~4.6 Bill. Ton freight covering 2.2 trillion TKm emitting 2.3 Gton of CO2.

Today, India ranks third in the world for CO2 emissions, preceded by China and the United States.
15 companies signaled demand for deploying 7,750 electric trucks by 2030 at the Clean Energy Ministerial in July 2023.

<table>
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<tr>
<th>Type</th>
<th>GVW Range</th>
<th>Number of Trucks</th>
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<tbody>
<tr>
<td>Light Duty Vehicles (LDV)</td>
<td>GVW: &lt; 3.5 Tn</td>
<td>2027</td>
</tr>
<tr>
<td>Medium Duty Vehicle (MDV)</td>
<td>GVW: 3.5 Tn – 12 Tn</td>
<td>2027</td>
</tr>
<tr>
<td>Heavy Duty Vehicle (HDV)</td>
<td>GVW: &gt;12 Tn</td>
<td>2030</td>
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**Table:**

- **LDV:** 580
- **MDV:** 760
- **HDV:** 1350

**Legend:**

- LDV: Light Duty Vehicles (GVW: < 3.5 Tn)
- MDV: Medium Duty Vehicle (GVW: 3.5 Tn – 12 Tn)
- HDV: Heavy Duty Vehicle (GVW: >12 Tn)
PILOTS DECLARED TO DATE

1. **JSW Steels**- Pilot 50 electric trucks by end of FY2024 and scale up to 500 trucks by 2040.
2. **IKEA**- Goal to use electrified or ZEHDTs in all road transportation in OECD countries, China and India by 2040
3. **Flipkart**- Pilot first set of electrified trucks in inter-state segment by end of 2024.

SCALABLE PILOT UPDATES – IN PROGRESS

9+ Sectors
15+ Solution-designs with IPLT, VECV, AL, BYD
8+ Geographies
2-8T 28-40T vehicle classes
Roadmap for Corridor Electrification

01 Stakeholder Engagement and Coordination

02 Infrastructure Assessment and Planning

03 Vehicle Selection and Procurement

04 Initial Deployment

05 Charging Infrastructure Rollout

06 Performance Monitoring and Evaluation

07 Scalability and Expansion

08 Documentation and Reporting
Way Forward

E-FAST ambition: 2024

Onboard
150 industry partners by Dec 2024

Aggregate
15,000 e-trucks demand in within 5 years

Define
Sourcing
Product with a view on product availability

Mobilize
Finance
for asset acquisition and infra development

Implement
5+
scalable pilots

Establish
Policy
levers to accelerate ZET pilots

Ongoing project tracks: Led/Supported by SFC

ZET Pilot Scoping
Financing Framework Development
Shippers Coalition
Sub-nation ZET policy framework
Evidence collation for Policy Advocacy
<table>
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<tr>
<th>Process</th>
<th>Description</th>
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<tr>
<td><strong>Assess</strong></td>
<td>Assess present state of Logistics and EV landscape and relevant policies to identify the ZET adoption and policy integration opportunities</td>
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<tr>
<td><strong>Benchmark</strong></td>
<td>Identify Global Best Practises in terms of Policy and Ecosystem interventions on sustainable logistics, and analyse adaptability potential in state level freight activities</td>
</tr>
<tr>
<td><strong>Aspire</strong></td>
<td>Analyse present actions by respective policy offices to set ZET adoption ambitions in urban and non-urban application, with a view on opportunities for ZET integration within state logistic and EV policy</td>
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<tr>
<td><strong>Define</strong></td>
<td>Define a high-level policy framework in consultation with key stakeholders in policy, industry and ecosystem with expected value and business case</td>
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<td><strong>Validate</strong></td>
<td>Validate the established framework with a deep dive TCO, business Case, Technology and infrastructure gaps, to establish the strategic framework for ZET integration in the State Logistics Policy</td>
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<tr>
<td><strong>Apply</strong></td>
<td>Translate the established policy framework into ZET pilot scopes, supported by a operational guidelines and implementation roadmap</td>
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Value Chain View for the ZET Ecosystem

**ELECTRIC VEHICLE POLICY**

- Urban Freight Mandates
- Cross segment coverage
- Low emission vehicles & Fuels
- Charging Infrastructure
- Supply Base Development
- Skilling
- Green Asset Finance
- Demand support for market development

**LOGISTICS POLICY**

- ZET-Green Freight Integration Vision and Goal Setting
- Incentivizing Green Freight Adoption
- Green Corridors and Channels
- Green Freight
- Future Ready Infra
- Green Infrastructure finance
- Multi-modal integration
- RE Integration
- Tech Infra for GHG Assessment
### Decoding Indian Freight Sector: Key Insights

#### CHALLENGES

- Unorganized sector, multiple small fleet operators
- Inefficiencies leading to high logistics cost (14% of GDP)
- No standardized Emission Accounting Framework for India
- Low OEM readiness to service Medium & Heavy-Duty segments
- TCO economics & asset finance – key barriers
- Inadequate policy support for ZETs
- Capability & technology infra gaps for emissions accounting

#### OPPORTUNITIES

- Large freight volumes & logistics activity scale for early ZET adoption
- Green credit initiative at COP28 trigger for freight emission accounting standard development
- Leverage SFBA models to overcome financial barriers
- Demand aggregation for OEMs to accelerate ZET development
- Upcoming FAME III policy an opportunity to integrate ZETs
- Focus of Freight Community on sustainability
- Indian market propensity to adopt new technology
SFC India Events

- 4th E-fast Summit, Jaipur, March 2023
- SFC India soft launch with an India Panel during “Smart Freight Week” Amsterdam, April 2023
- SFC India launch with Shippers Roundtable”, New Delhi, May 2023
- e-FAST Task Force Announcement at CEM14, Goa, July 2023
SFC India Events: 2nd Shippers Roundtable, Mumbai-Nov, 23
Thank you!